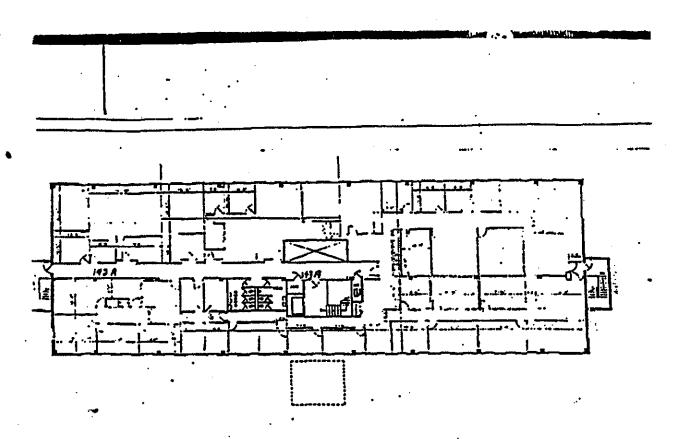


SECOND FLOOR PLAN

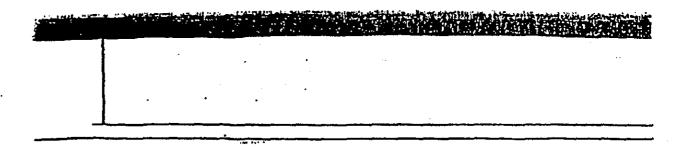
SOUTHDALE OFFICE CENTRE etoo france wenue south edna, minnesota 88438

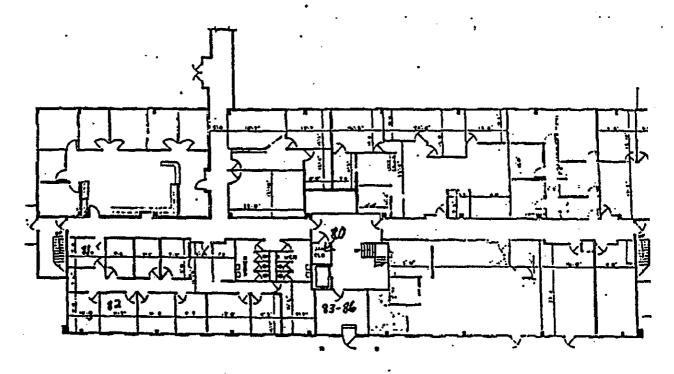


THIRD FLOOR PLAN



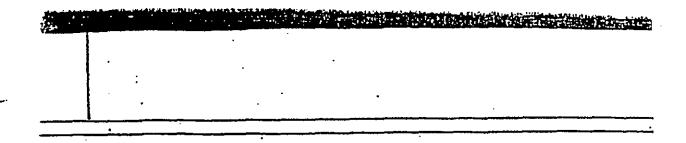
SOUTHOALE OFFICE CENTRE 6700 FRANCE AVENUE SOUTH EDMA, MINNESOTA 35435

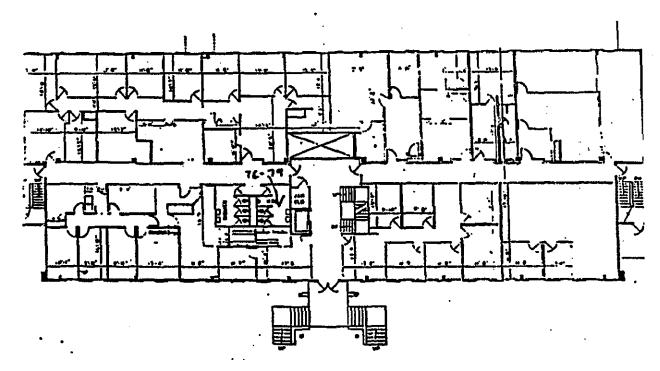




FIRST FLOOR PLAN

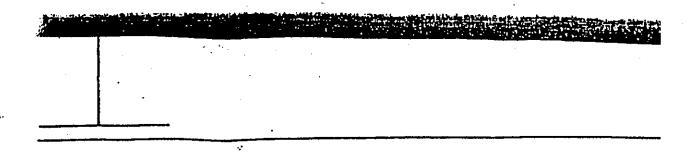
SOUTHDALE OF 6750 FRANCE AV EDINA, MINNESOTA

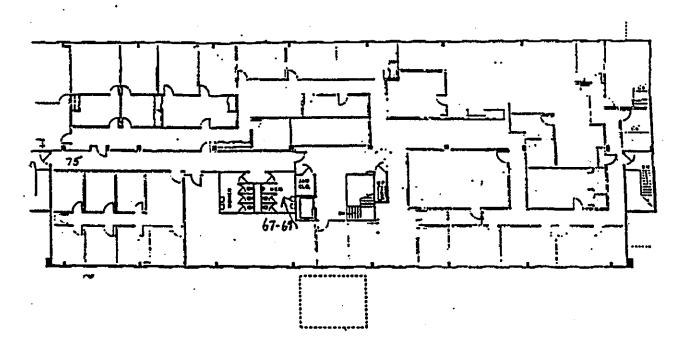




SECOND FLOOR PLAN .

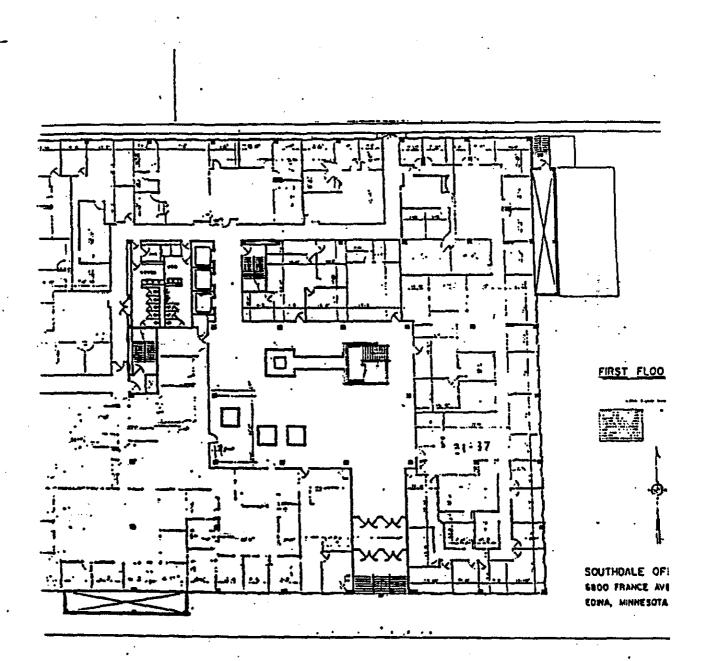
SOUTHDALE OFF 6750 FRANCE AVE: EDINA, MINNESOTA

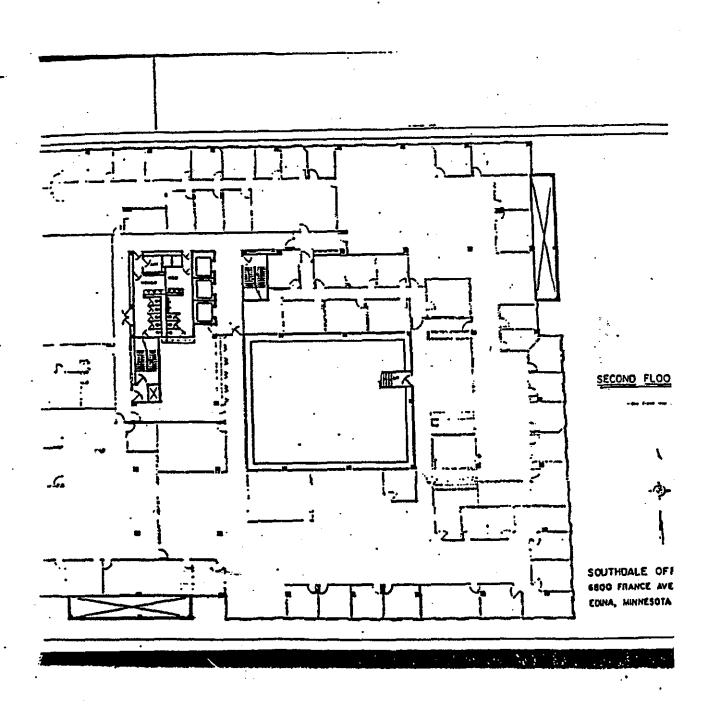


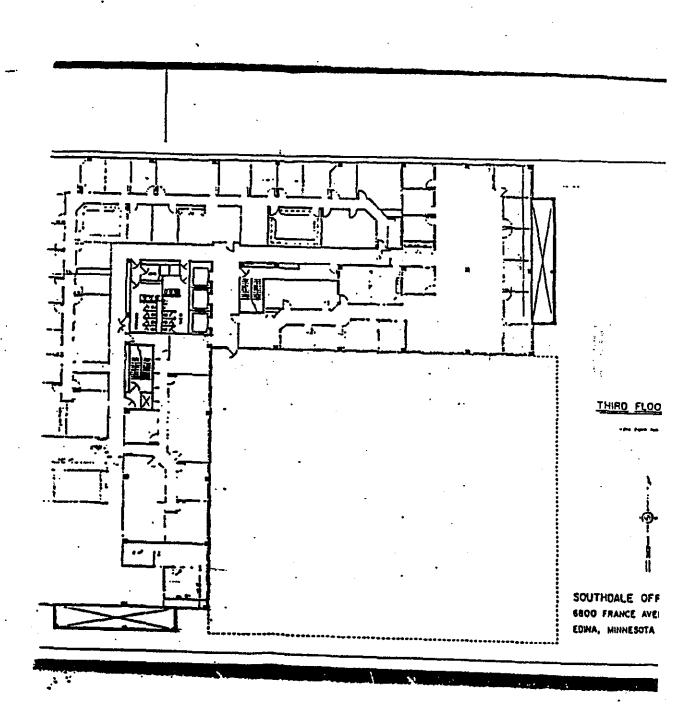


THIRD FLOOR PLAN

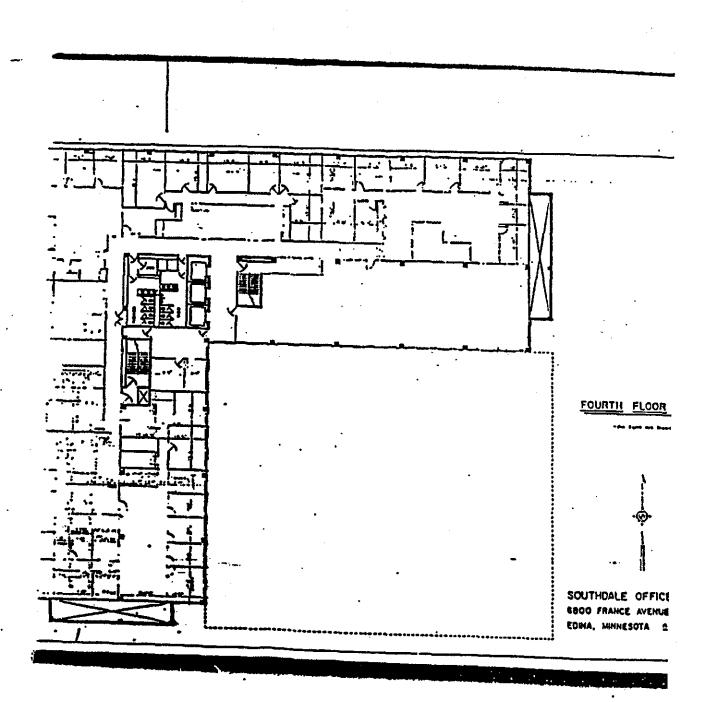
SOUTHDALE OFFI
6750 FRANCE AVEN
EDINA, MINNESOTA

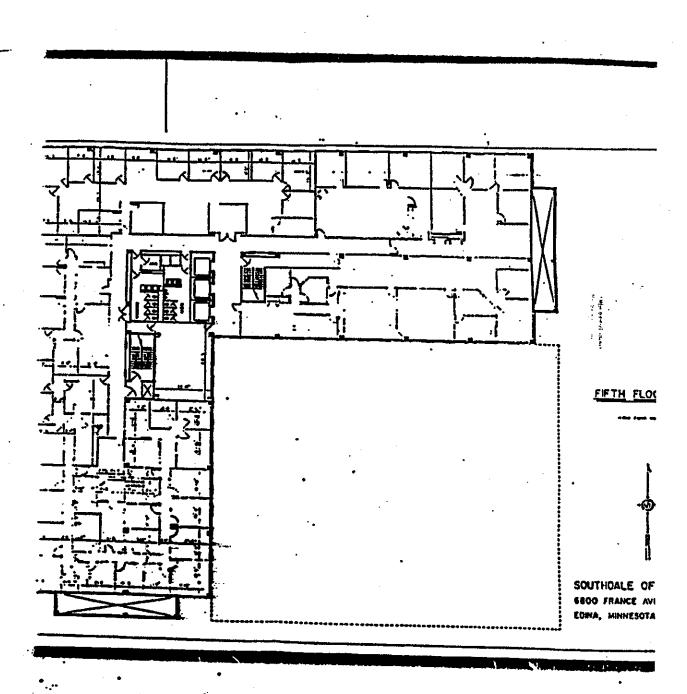




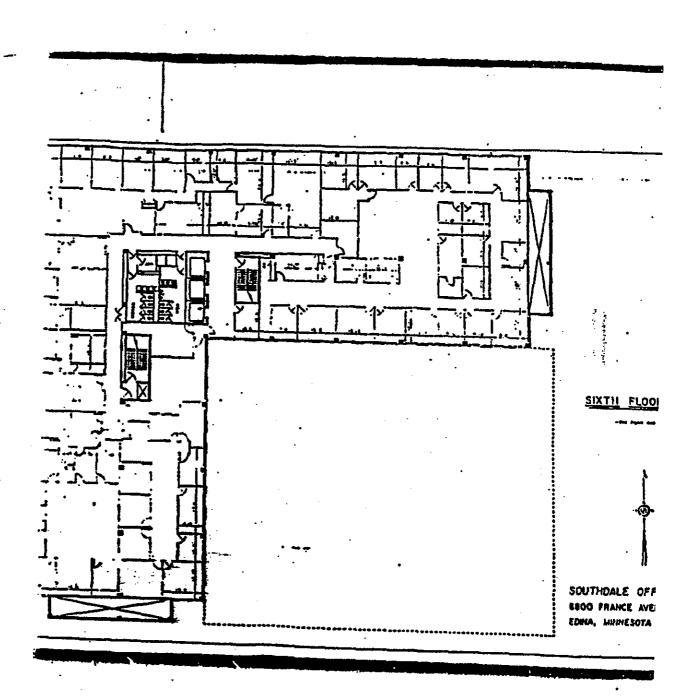


PI5

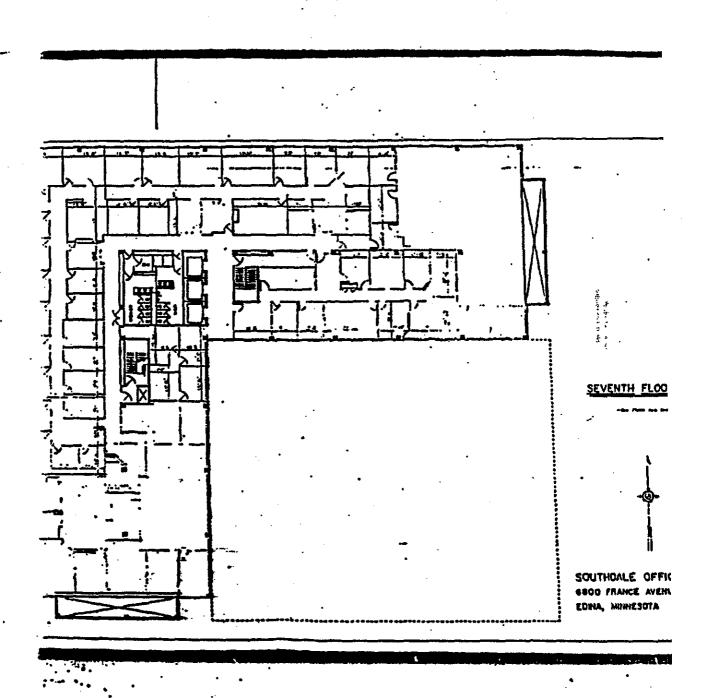




PIS



PIS



PIS

8001465



March 25, 1991

RE:

Southdale Office Complex Edina, Minnesota

The constituent analysis of additional fireproofing samples for the above-referenced project supplements my June 25, 1990 opinion and confirms that the samples analyzed are Mono-Kote 3, which was manufactured by W. R. Grace.

Worksheets reflecting the analysis are attached.

William E. Longo Ph.D.

BUILDING: Southdale Office Complex Edina, Minnesota

The following bulk samples from the above-referenced building were analyzed and were used to supplement the opinion regarding the manufacturer and product.

Bulk Samples	Sample Location	Collected By
1	6th Floor, Suite 674	LAI
2	6th Floor, Suite 676	LAI
3	5th Floor, Suite 555 North Side	LAI
4	5th Floor, Suite 555 South Side	LAI
5	4th Floor, Suite 425	LAI
6	4th Floor, Suite 410	LAI
7	3rd Floor, SW Corner 1st Column	LAI
8	3rd Floor, SW Corner End Beam on South Side	LAI
9	2nd Floor, Suite 243 2nd Column from North	LAI
10	2nd Floor, Suite 243 West Wall Beam	LAI
11	1st Floor, Suite 165 2nd Column, 2nd Row from South End	LAI
12	1st Floor, Suite 165 South Side	LAI
13	Basement Storage by Room #22	LAI
14	Parking Garage by Stall #40	LAI

BULK ASBESTOS SHEET	, ,
Project # - Spl #:	Date: 7/17/90
Project Name: PRU/ South dale office	Analyst: 9. Mc Hen
Sample Identification: 6800 France Ase #1	to Floor
·	
Gross Visual Description: Beige with fine libes	old fighes and
pooks bound in a fine grained matrix	
•	
Optical Data for Asbestos Identificat	lon
Morphology Pleochroism. Refractive Index Sign of Rlongation Extinction Birefringence. Melt Fiber Name	• • • • • • • • • • • • • • • • • • • •
ASBESTOS MINERALS: Est. Vol. \$	
Chrysotile	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Other	· · · · · · · · · · · · · · · · · · ·
NON-FIBROUS COMPONENTS:	
Perlite35 Other	· · · · · · · · · · · · · · · · · · ·
Abordant Gypsum, fine grained aggregate	
EFFERVESCENCE: None- weak in Foolsfed gras	•
COMMENTS:	
/V'V	•

BULK ASBESTUS SHEET	
Project # - Spl #:	Date: 7/17/90
Project Name: PRU/Southdale . ffice	Analyst: 9 Mol
Sample Identification: 6800 France Ave #2	6 to Flour
Gross Visual Description: Beige with fine	L. has gold flakes and
books bound in a fine around matrix	, , ,
Optical Data for Asbestos Identif	ication
Pleochroism. AO Refractive Index	
Sign of Blongation	
Birefringence.	
Fiber Name	• • • • • • • • • • • • • • • • • • • •
ASBESTOS MINERALS: Est. Vol. \$	
Chrysotile	
Crocidolite	-
Tremolite/Actinolite	
OTHER FIBROUS COMPONENTS:	
Kineral/Rock wool	·
Fibrous glass	
Synthetic	•
NON-FIBROUS COMPONENTS:	
Perlite	·
Vermiculite	·
other .	
Binders	
Abundant Corpson, fine grained a	goragate
EFFERVESCENCE: None- weak in Fostered gras	
COMMENUTE •	
- NSS	
	•

Project # - Spl #:	Date: 7/17/90
Project Name: PRU /South dule Office	Analyst: 9. Mod
Sample Identification: 6800 Figure Are # 3	5th Floor
Gross Visual Description: Beige with fine	1. bors, add flakes and
Dooks bounding time grained matrix	· · ·
✓ · · · · · · · · · · · · · · · · · · ·	
Optical Data for Asbestos Ident: Morphology	ification
Refractive Index	• • • • • • • • • • • • • • • • • • • •
Sign of Riongation	• • • • • • • • • • • • • • • • • • • •
Birefringence	• • •
Fiber Name	
ASBESTOS MINERALS: Est. Vol.	*
Chrysotile	
Amosite	
Tremolite/Actinolite	•
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	•••
Synthetic	
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite35	
• • • • • • • • • • • • • • • • • • • •	·
Binders	·
Abundant Coppeum, Line grained again	pate
	·
EFFERVESCENCE: None- week in Zwie had Grees	
COMMENTS: N 9 0	•

BULK ASBESTOS SHEET
Project # - Spl #: M2468-4 Date: 7/17/90
Project Name: PRU/Southdale office Analyst: O. May
Sample Identification: 6800 France Ave #4 5th Floor
Gross Visual Description: Boige with fine tiles gold flakes and
bouts found in a fine grained matein
Optical Data for Asbestos Identification
Norphology Pleochroism. Refractive Index Sign of Elongation Extinction Birefringence Nelt Fiber Name
ASBESTOS MINERALS: Est. Vol. *
Chrysotile
OTHER FIBROUS COMPONENTS:
Mineral/Rock wool Pibrous glass Cellulose Synthetic Other
NON-FIBROUS COMPONENTS:
Perlite Vermiculite Other
Binders
Abondant Compoun, fine grained aggregate
EFFERVESCENCE: None- Weak, a Tooleter avers
COMMENTS:

Project # - Spl #: M2468-5	Date: 7/17/90
Project Name: PRU/Southdale office	Analyst: 9. Moh
Sample Identification: 6800 France Auc #5	4th Flow
Bound in a fine urained makin	, gird flates and books
Optical Data for Asbestos Identi Norphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Nelt Fiber Name Optical Data for Asbestos Identi (0) (558154) (558154) (1) (2) (3) (4) (558154) (558154) (558154) (6) (7) (7) (8) (8) (8) (9) (9) (1) (1) (1) (1) (2) (3) (4) (5) (5) (6) (7) (7) (7) (7) (8) (8) (9) (9) (9) (1) (1) (1) (1) (1	fication
ASBESTOS MINERALS: Est. Vol. 3	
Chrysotile	
OTHER FIBROUS COMPONENTS: Mineral/Rock wool	
NON-FIBROUS COMPONENTS:	
Perlite	
Binders	g grogal e
EFFERVESCENCE: 1000e - week 10 Inteled ares	
NSO	



MATERIALS ANALYTICAL SERVICES, INC. 3597 Parkway Lane, Suite 250 Norcross, GA 30092 404/448-3200

TEM ANALYSIS: BUCK ANALYSIS

PROJECT: PRUDENTIAL: SOUTHOALE OFFICE COMPLEX 120.61

SAMPLE NUMBER: 12 2468-5

SAMPLE ID: #5 4 THFLOOR SUITE 425

DATE OF ANALYSIS: 8/20/90

Asbestos Minerals: CARYSOTICE (EOS)(DIFF)

Other Components:

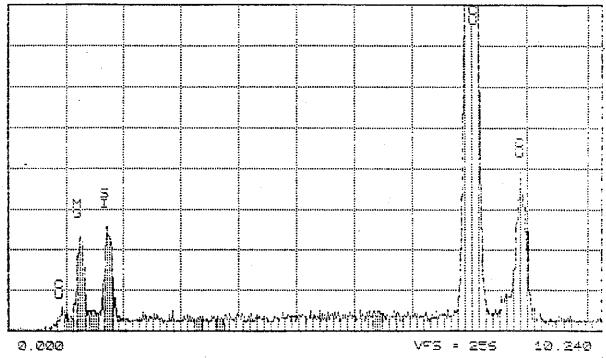
VERTICULITE (EDS)
67PSUM (EDS)(DIFF)
CALCITE (EDS) # SMALL AMOUNT

Comments:

MON 20-AUG-90 15:20

Cursor: 0.000keV = 0

ROI (SIKa) 1.660: 1.810:1012

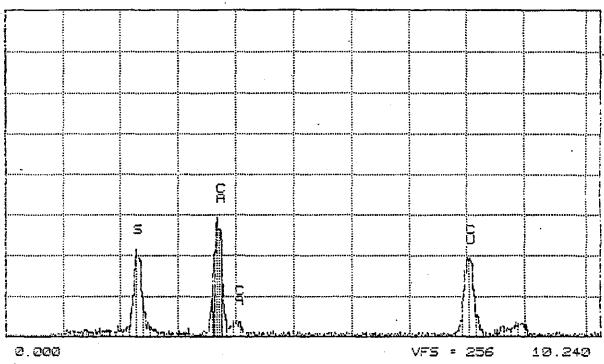


21 M2468-5, CHRYSOTILE

21 M2468-5, VERMICULITE

MON 20-AUG-90 15:23

Sunson: 0.000keV = 0 ROI (SIKØ) 1.650: 1.810=52



16

M2468-5, GYPSUM

MATERIALS ANALYTICAL SERVICES MON 20-AUG-90 16:24

Cursor: 0.000keV = 0 ROI (SIKa) 1.550: 1.810=50

4

M2468-5, CALCITE



ADDITIONAL BULK ANALYSIS

Sample # 1/2468-5Date 68/69/96

Analyst J. K. f.

ACID DISSOLUTION

(Ï)	Petri dish plus sample:	<u>8.3848</u> g
(2)	Petri dish minus sample:	7,3342 g
(3)	Original sample weight:	1.0506 g
(4)	Filter weight:	<u>0,0599</u> g
(5)	Clean petri dish weight:	<u>7.3388</u> g
(6)	Final sample weight plus filter and petri dish:	: 7.8228 g
(7)	Final sample wt: ((6) -[(4) + (5)])	0.4241 g
(8)	Percent residue wt: ((7)/(3) x 100)	- 40,4 %
(9)	Amount in solution: (100 - (8))	59.6 %



ADDITIONAL BULK ANALYSIS

STARCH VERIFICATION

Sample # /12468-5 Date 8/17/93.	Analyst W.D. Egel
1) Sample Analyzed before after acid disso	lutions
Starch observed	yes
lodine test (ceiling tile only)	positive

Project # - Spl #: M2468-6	Date: 7/17/90
Project Name: PRU/ Southdale Office	Analyst: J. Michael
Sample Identification: 6800 France = 6 4th Flo	por
Gross Visual Description: Beige with fine libes,	and flakes and books
Doord in a fine grained matrix	,
Optical Data for Asbestos Identific	ation
Morphology	
Refractive Index	_•••
Retinction O O O O O O O O O O O O O O O O O O O	_ • • •
Helt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. &	
Chrysotile	
Amosite	•
Tremolite/Actinolite	 · ·
Anthophyllite	
OTHER FLEROUS COMPONENTS:	•
Mineral/Rock wool Fibrous glass	11-8-51
Cellulose	
Synthetic	
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	· · ·
Other	
Binders 53	
^	
Abundant Cypsum, time grained aggregate	
EFFERVESCENCE: None- week in Toolsted Grees	•
COMMENTS: NF 8	•
7070	

Project # - Spl #: <u>M2468-7</u>	Date: 7/17/98
Project Name: PRU /Southdule office	Analyst: 0. Mo
Sample Identification: 6900 France #) 3'9 F/	
Gross Visual Description: Brige with fine libers,	gold blakes and boxus
Morphology Optical Data for Asbestos Identific	
Pleochroism	
Sign of Blongation	• • •
Birefringence	
Fiber Name	
SCRECTIC ACCUMENTS OF	
ASBESTOS MINERALS: Est. Vol. \$	
Chrysotile	
Crocidolite	· ·
Anthophyllite	•
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	
Synthetic	·
Other	
NON-FIBROUS COMPONENTS:	
Perlite	 .
Other	
	
Binders	
- Abusdant by pring time grained aggrega	/e
EFFERVESCENCE: None - Weak in 7 solated greas	
COMMENTS:	
70 7 0	

	Project # - Spl #:	Date: 7/17/90
	Project Name: PRU/Suthdale Office	Analyst: 1 mon
	Sample Identification: 6800 France # 8 3'4 Floor	
	Gross Visual Description: Beige with fine filers, g	old lakes and
	Dooks board in a time graned matrix	
	Optical Data for Asbestos Identificat	ion in
	Morphology	• •
	Refractive Index	• • • • • • • • • • • • • • • • • • • •
	Retinction	• • • • • • • • • • • • • • • • • • • •
	Helt	• •
	Fiber Name	
	ASBESTOS MINERAIS: Est. Vol. \$	
	Chrysotile	·
	Crocidolite	_
	Tremolite/Actinolite	····
	OTHER FIBROUS COMPONENTS:	
	Mineral/Rock wool	•
	Fibrous glass	-
	Synthetic	
	NON-FIBROUS COMPONENTS:	
	Perlite	<u>.</u>
	Vermiculite35 Other	 ·
	Binders 53	
		·
	Abundant bypsum, fine grained aggregate	
	PERENTING CHILD IN TO 1 1 2	<u> </u>
	EFFERVESCENCE: No.e- , weak in Isolahed Grees	
	COMMENTS: NEO	
)	•	

Project Name:	Project # - Spl #:	Date: 7/7/90
Sample Identification: 6800 France 2 2 10 France Gross Visual Description: 6800 France 2 2 10 France Morphology Grand Making Morphology Grand Making Morphology Grand Making Morphology Grand Making Refractive Index Grand Making Refractive Index Grand Making Refractive Index Grand	Project Name: PRU/Southdole Office	Analyst: Q Modu
Optical Data for Asbestos Identification Horphology Pleochroism. Refractive Index Sign of Elongation Ritinction Ritefringence Helt Fiber Name Chysothe ASBESTOS MINERALS: Chrysotile Anthophyllite OTHER FIEROUS COMPONENTS: Mineral/Rock wool Fibrous glass Callulose Synthetic Other NON-FIEROUS COMPONENTS: Perlite Vermiculite Abouted Gypun, fine graned aggregate EFFERVESCENCE: Mane—Weakin Toward aggregate	Sample Identification: 6800 France F 9 2 nd Flo	36
Morphology Pleochroism. Refractive Index Sign of Elongation Extinction Birefringence. Melt Fiber Name ASBESTOS MINERALS: Chrysotile Amosite Crocidolite Tremolite/Actinolite Anthophyllite OTHER FIBROUS COMPONENTS: Mineral/Rock wool Fibrous glass Cellulose Synthetic Other NON-FIBROUS COMPONENTS: Perlite Perlite Other Binders About 1 Gypsun, fine grained aggregate EFFERVESCENCE: Mane Weakin Towahid Greg	Gross Visual Description: Beige with fine files	,gold flakes and boun
Pleochroism. 08		cation
Chrysotile	Pleochroism	
Amosite Crocidolite Tremolite/Actinolite Anthophyllite OTHER FIBROUS COMPONENTS: Mineral/Rock wool Fibrous glass Cellulose Synthetic Other NON-FIBROUS COMPONENTS: Perlite Vermiculite Other Binders Abundal Gypsun, fiine grained aggregate EFFERVESCENCE: Mane— Weakin Toward Grage Consequence Consequence Consequence Signification Abundal Gypsun, fiine grained aggregate	15	•
Mineral/Rock wool Fibrous glass Cellulose Synthetic Other NON-FIBROUS COMPONENTS: Perlite Vermiculite Other Binders Abundal Gypsun, fine graned aggregate EFFERVESCENCE: None— Weakin Toward Greg CONSTRUCTION	Chrysotile	
Fibrous glass Cellulose Synthetic Other NON-FIBROUS COMPONENTS: Perlite Vermiculite Other Binders Abundal Gypsum, fiine gra, nod aggregate EFFERVESCENCE: None— Weakin Towaled Greq	OTHER FIBROUS COMPONENTS:	
Perlite Vermiculite Other Binders Abundal Gypsum, fine grained aggregate EFFERVESCENCE: None— Weakin Iswafed Greg	Mineral/Rock wool Pibrous glass Cellulose Synthetic Other	
Binders	NON-FIBROUS COMPONENTS:	
Abundal Gypsum, fine grained aggregate EFFERVESCENCE: None- Weak in Isvated Greg	Perlite	
EFFERVESCENCE: None - Weak in Towafed Greg		
C010/min	TTPUNES CYPTEM, TIME gra, not aggregate	;
C010/min	EFFERVESCENCE: More Weak - Toward Gree	
	0010/70/70	



MATERIALS ANALYTICAL SERVICES, INC. 3597 Parkway Lane, Suite 250 Norcross, GA 30092 404/448-3200

TEM ANALYSIS: BUCK AMACTILI

PROJECT: PRUDENTIAL: SOUTH DALF OFFICE CONPLEX: 120.61

SAMPLE NUMBER: May68-9

SAMPLE ID: "9 2 NO FLOOR SUITE 243

DATE OF ANALYSIS: 8/20/90

ANALYST: U.B. E.L

Asbestos Minerals: CHRYSOTILE (EDS) (0186)

Other Components: VERMICULITE (EDS)

(YPSUM (EDS)(OIFF)

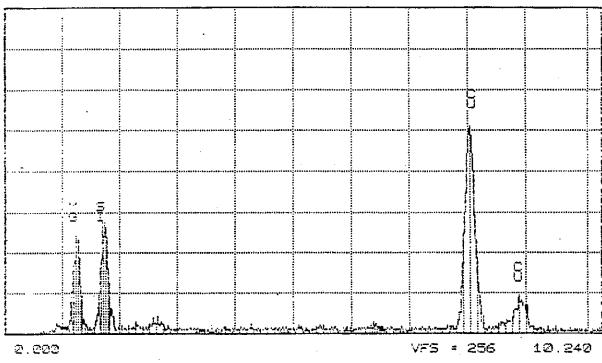
(ALCITE (EDS) * TRACE OBSERVED (CHARSOTILE ADHERIMA)

Comments:

MATERIALS ENALYTICAL SERVICES

MON 20-RUB-90 15:26

Dunson: 0.000keV = 0 ROI (SIKA) 1.550: 1.810=1035



5 M2468-9, CHRYSOTILE

Curson: 2.200keV = 0 ROI (SIKa) 1.560: 1.810=2755

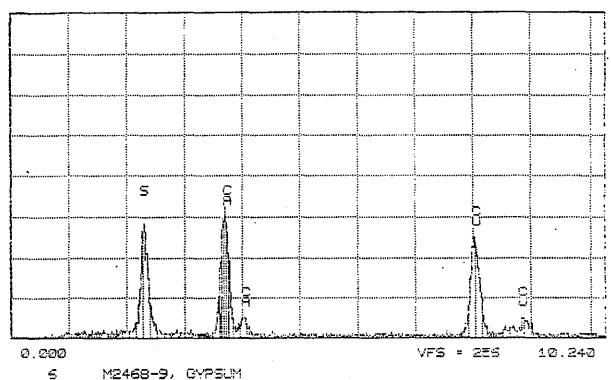
MATERIALS ANALYTICAL SERVICES MON 20-AUG-90 16:39

© 2000 VFS = 512 10 .240

70 M2468-9, VERMICULITE

MON 20-AUG-50 16:40

Curson: 0.000keV = 0 ROI (SIKd) 1.550: 1.810=47



M2468-9, GYPSUM

MATERIALS ANALYTICAL SERVICES MON 20-AUG-90 15:43

Cursor: 0.000keV = 0 ROI (SIKa) 1.550: 1.810=104



ADDITIONAL BULK ANALYSIS

Sample # $\frac{112468-9}{080999}$

Analyst J. F. R.

ACID DISSOLUTION

(Ï)	Petri dish plus sample:	<u>9,2289</u> g
(2)	Petri dish minus sample:	8,2722 g
(3)	Original sample weight:	0,9567 g
(4)	Filter weight:	<u>0,0583</u> g
(5)	Clean petri dish weight:	<u>7.3/69</u> g
(6)	Final sample weight plus filter and petri dish:	: <u>77735</u> g
(7)	Final sample wt: ((6) -[(4) + (5)])	<u>0.3983</u> g
		·
(8)	Percent residue wt:((7)/(3) x 100)	. 41.6 %
(9)	Amount in solution: (100 - (8))	_58.4 %



ADDITIONAL BULK ANALYSIS

STARCH VERIFICATION

Sample # 112768-9		Analyst w. D. C.
Date <u>8/17/90</u>		•
1) Sample Analyzed before/after acid dissol	utions	•
Starch observed		(no) V
lodine test (ceiling tile only)	positive negative	

Project # - Spl #:	Date: 2/17/90
Project Name: PRU /Sosthdale office	Analyst: J. Med.
Sample Identification: 6800 France #10 2	rd Floor
Gross Visual Description: Beige with Line f.	bas add flakes and
Douks bound in a fine grained matrix	
Optical Data for Asbestos Identi	fication
Pleochroism	
Refractive Index	• • • • • • • • • • • • • • • • • • • •
Extinction	• • •
Melt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. 3	;
Chrysotile	•
Amosite	
Crocidolite	······································
Anthophyllite	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Ribrous glass	
Synthetic	
Other	,
NON-FIBROUS COMPONENTS:	
Perlite	
Other	
Binders	
Abundant Caypoun, fine grained aggregate	
	· ·
EFFERVESCENCE: None- Walkin Isolated grea	
COMMENTS:	
N58	•

Project Name: PRO /South da/e ntice Sample Identification: 6800 France # 11 2 194710	Analyst: 1 Mer
	1/3/17
	oś (' ' [(bc/
Gross Visual Description: Brige with fine 1.	bocs gold Flakes
Optical Data for Asbestos Identific	cation
Horphology Pleochroism. Refractive Index Sign of Blongation Extinction Birefringence. Helt Fiber Name LOGOY 159/15-44	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
OTHER FIBROUS COMPONENTS:	· ·
Mineral/Rock wool Fibrous glass Cellulose Synthetic Other	
NON-FIBROUS COMPONENTS:	
Perlite	
Binders	
EFFERVESCENCE: None- weak in Isolahd gos	,
COMMENTS:	

Project # - Spl #:	Date: 7/17/90
Project Name: PRU/ Southdele ottice	Analyst: Onic
Sample Identification: 600 France 12	13-Foot
·	
Gross Visual Description: Beige with fine fibe	Pis add Pakes
and books board in a fine organed matrix	
Optical Data for Asbestos Identi Morphology	fication
Pleochroism	· · · ·
Sign of Rlongation	• • •
Rxtinction	• • •
Melt	
Fiber Name	·•
ASBESTOS MINERALS: Est. Vol. :	
Chrysotile	
Amosite	
Crocidolite	· . ·
Anthophyllite	•
OTHER FIEROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Other	
NON-FIEROUS COMPONENTS:	
Perlite	
Vermiculite 35	
Other	
Binders	
1111	
Abundant Gripson, fine prained age	vegate
EFFERVESCENCE: None - walk in Tolated gras	
COMMENTS:	
NSO	
	- -

Project # - Spl #:	Date:
Project Name: PRO / Southdale office	Analyst: Omcan
Sample Identification: C860 France = 13	resement
Gross Visual Description: Bege with fine fiber DODKS bound in a fine grained matrix	s, gold flakes and
Optical Data for Asbestos Identifi	cation
Morphology Pleochroism. Refractive Index Sign of Blongation Extinction Birefringence. Melt Fiber Name Day	
ASBESTOS MINERALS: Est. Vol. \$	
Chrysotile	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Other	
NON-FIBROUS COMPONENTS:	
Perlite	
Binders 53 Abundant Gypsom fine gramed aggrega	
EFFERVESCENCE: 1010- week 11. 75, lefted acces	
COMMENTS: N 50	·

Project # - Spl #:
Project Name: PRU / Southdale office Analyst: / Mod.
Sample Identification: 6800 France #14 Parking Garage
Gross Visual Description: Beye with fine f. bas, and flakes and
books bound in a fine grained matrix
Optical Data for Asbestos Identification Morphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Nelt
Fiber Name
ASBESTOS MINERALS: Est. Vol. \$
Chrysotile
OTHER FIBROUS COMPONENTS:
Fibrous glass Cellulose Synthetic Other
NON-FIBROUS COMPONENTS:
Perlite
Binders
EFFERVESCENCE: None - Wask in Inlated grags
COMMENTS:



MATERIALS ANALYTICAL SERVICES, INC. 3597 Parkway Lane, Suite 250 Norcross, GA 30092 404/448-3200

TEM ANALYSIS: BULK ANALYSIS

PROJECT: PRUDENTIAL. SOUTHDALE OFFICE COMPLEX 120.61
SAMPLE NUMBER: M & 468-14
SAMPLE ID: #14 PARKING GARAGE ABOUE STALL #40

DATE OF ANALYSIS: 0/20/80

ANALYST: W.B. Egeld

Asbestos Minerals: CHRYSOTICE (EDS)(DIFF)

Other Components: VERMICULITE (EDS)

GYPJUN (EDS)(DIEF)

(ALCITE (EDS)(DIEF) #TRACE ODSERVED

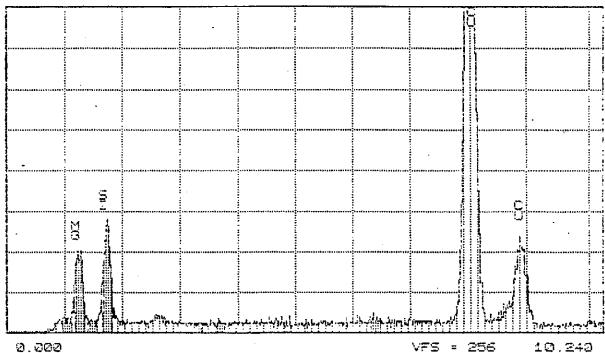
Comments:

MATERIALS ANALYTICAL BERVICES

MON 20-AUG-90 17:51

Curson: 0.000KeV = 0

ROI (SIKA) 1.650: 1.810:1005



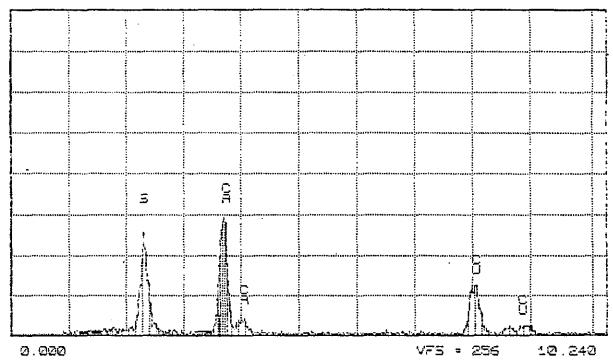
.000 17

M2468-14, CHRYSOTILE

MATERIALS PARLYTICAL SERVICES

MON 20-AUG-90 17:56

Ourson: 2.303keV = 2 ROI (SIKa) 1.560: 1.810=77

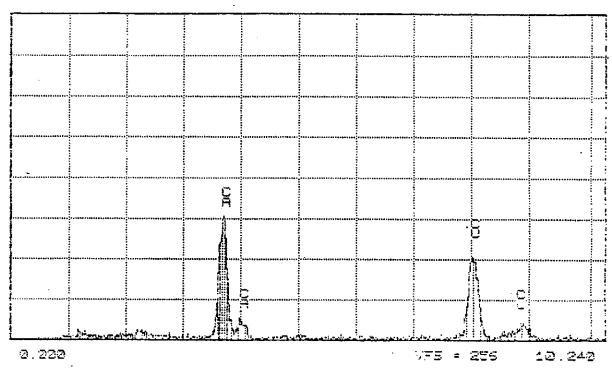


5 M2458-14, GYPSUM

MON 20-9UG-90 17:58

Cursor: 0.000keV = 0

ROI (SIK¢) 1.860: 1.810=39



M2468-14, CALCITE



ADDITIONAL BULK ANALYSIS

Sample # $\frac{M2468-14}{08/15/90}$

Analyst J-K. R.

ACID DISSOLUTION

(I) Petri dish plus sample:	<i>8,8997</i> g
(2) Petri dish minus sample:	<u>7,9071</u> g
(3) Original sample weight:	0,9926 g
(4) Filter weight:	<u>0,0577</u> g
(5) Clean petri dish weight:	7,3645 g
(6) Final sample weight plus filter and petri dish:	: <u>7,8404</u> g
(7) Final sample wt: ((6) -[(4) + (5)])	0.4182 g
(8) Percent residue wt: ((7)/(3) x 100)	. 42.1 %
(9) Amount in solution: (100 - (8))	.57,9 %



ADDITIONAL BULK ANALYSIS

STARCH VERIFICATION

Sample # 1/ x 768-/ 7		Analyst V.V. Egel
Date <u>8/17/90</u>		
		•
1) Sample Analyzed before acid disse	olutions	
Starch observed		(no) V
		yes
	•	· · · · · · · · · · · · · · · · · · ·
lodine test	positive	
(ceiling tile only)	negative	



June 25, 1990

Re: Southdale Office Center Edina, Minnesota

Based on the constituent analysis of the fireproofing samples for the above-referenced project, it is my opinion that the samples analyzed are Mono-Kote 3, which was manufactured by W. R. Grace.

Worksheets reflecting our analysis are attached.

William E. Longo, Ph.D.

PIS 00060987

BUILDING: Southdale Office Center Edina, MN

The following bulk samples from the above-referenced buildings were analyzed and were used to form an opinion of the manufacturer and product.

Bulk Sample #	Sample Location	Collected By
i	7th Floor, Suite 735	IEA
2	7th Floor, Suite 735	IEA
3	7th Floor, Suite 735	IEA
4	7th Floor, Suite 735	IEA
5	7th Floor, Suite 735	IEA
6	7th Floor, Suite 735	IEA
7	7th Floor, Suite 735	IEA
8	7th Floor, Suite 735	IEA
. 9	7th Floor, Suite 735	IEA
10	7th Floor, Suite 735	IEA
. 11	7th Floor, Suite 735	IEA
12	7th Floor, Suite 735	IEA
13	7th Floor, East Wing	IEA
14	7th Floor, East Wing	IEA
15	7th Floor, East Wing	IEA
16	7th Floor, East Wing	IEA
17	7th Floor, East Wing	IEA

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18	7th Floor, East Wing	IEA
19	7th Floor, East Wing	IEA
20	7th Floor, East Wing	IEA
21	7th Floor, South Wing	IEA
22	7th Floor, South Wing	IEA
23	7th Floor, South Wing	IEA
24	7th Floor, South Wing	IEA
25	7th Floor, South Wing	IEA
26	7th Floor, South Wing	IEA
27	7th Floor, South Wing	IEA
28	7th Floor, South Wing	IEA
29	Basement Storage	IEA
30	Suite 165	IEA
31	Suite 555	IEA

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #: M 2971-1 Date: 6/11/89
Project Name: /au) Assoc. /Ail. Analyst: Ohm
Sample Identification: Pl.5n 00609 - 375A7/A Reviewer:
Gross Visual Description: Beige, Polices, fine grained matrix with gold
flykes and Dooks
Optical Data for Asbestos Identification
Morphology
Refractive Index
Sign of Elongation
Birefringence
Birefringence
Fiber Name
<u></u>
ASBESTOS MINERALS: Est. Vol. %
Chrysotile
Crocidolite
Anthophyllite
OTHER FIBROUS COMPONENTS:
Mineral/Rock wool
Fibrous glass
Cellulose
Synthetic
NON-FIBROUS COMPONENTS:
Perlite
Vermiculite
Mica
Quartz
Calcite
Gypsum
Other
Binders 53
Sinders
EFFERVESCENCE; veil- hoderate
COMMENTS:
NSO
4.

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BULK ASBESTOS SHEET	/ /
Project # - Spl #: M 2972-2	Date: 6/16/89
Project Name: Law ASSOC /ATL	Analyst: Jam
Sample Identification: Prish 00609 - 3750 >	Reviewer:
Gross Visual Description: Beige, fibrous, finegro	gined matrix with
gold flakes and books	· · · · · · · · · · · · · · · · · · ·
Optical Data for Asbestos Identifi	cation
Morphology	
Pleochroism	
Refractive Index	+
Sign of Elongation	· · · · · · · · · · · · · · · · · · ·
Extinction	· · ·
Melt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
15	•
Chrysotile	
Amosite	
Crocidolite	
Anthophyllite	•
	
OTHER FIBROUS COMPONENTS:	•
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	
Talc	•
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	-
Mica	
Quartz	
Gypsum	
Diatoms	
Other	
Binders 53	
Gypsom Common - Some Carbonate present	
EFFERVESCENCE; went - moderate	
COMMENTS: (V S C)	•
- VV	

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MATERIALS ANALYTICAL SERVICES, INC.

HOLK ASBESTOS SHEET

Project # - Spl #: M2972-3	Date: 6/16/89
Project Name: Law A550 (A7L.	Analyst: Cha Reviewer:
Sample Identification: frisa 00609 - 37547/C	RGV1ewer:
Gross Visual Description: Beige Chous, finegraine	d mutrix with
gold flakes and books	· .
Optical Data for Asbestos Identifica	tion
Morphology	· · ·
Birefringence	
Melt	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc	
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite Vermiculite Mica Quartz Calcite Gypsum Diatoms Other	
Binders	
EFFERVESCENCE; weak - moderate	
COMMENTS: NSO	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: <u>M2977-4</u> Date	6/16/89
	yst: Thy
Sample Identification: $\rho_{0.50} = 0.009 = 37547/0$ Review	der:
Gross Visual Description: Beige, fibrous, finegrained matri	x w.th
Optical Data for Asbestos Identification	
Morphology Pleochroism. Refractive Index Sign of Elongation Extinction Birefringence. Melt Fiber Name Macy 1544158/ 100 Chysotile	
ASBESTOS MINERALS: Est. Vol. %	-
Chrysotile	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
NON-FIBROUS COMPONENTS:	•
Perlite Vermiculite Mica Quartz Calcite Gypsum	
Diatoms	÷
Binders 53 Gypsom Common - Some Corbonate present	./
EFFERVESCENCE: Weak - Moderate	
COMMENTS: NSO	·
••	

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Project # - Spl #: M 2972-5 Date: 6/17/89
Project Name: 14. Assoc. (ATL- Analyst: 9th
Sample Identification: Prisa 60609 375A72 A Reviewer:
. **
0 0 0 0
Gross Visual Description: Beige, librous, fine grained matrix
with gold flakes and books
Optical Data for Asbestos Identification
Morphology
Pleochroism
Sign of Elongation
Extinction
Melt
Fiber Name
ASBESTOS MINERALS: Est. Vol. %
Chrysotile
Amosite
Crocidolite
Tremolite/Actinolite
interrophy in the control of the con
OTHER FIBROUS COMPONENTS:
Mineral/Rock wool
Fibrous glass
Cellulose
Talc
NON-FIBROUS COMPONENTS:
Perlite
Vermiculite
Quartz
Calcite
Gypsum
Diatoms
Binders 5-3 Suppose Common - Seathered grains of Carbonte present
· · · · · · · · · · · · · · · · · · ·
EFFERVESCENCE: weak- moderate
COMMENTS:
1/50
4

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BULK ASBESTOS SHEET M 2972-6 Project # - Spl #: Date:_ Analyst: Project Name: Law Reviewer 📝 Sample Identification:_ Gross Visual Description:_ Optical Data for Asbestos Identification Morphology . . Pleochroism. · 1-5411.55/ Refractive Index . Sign of Elongation Extinction . . . Birefringence. 10W Melt . . . NO ·WYSDFILL Fiber Name Est. Vol. % ASBESTOS MINERALS: Chrysotile . Amosite Crocidolite Tremolite/Actinolite Anthophyllite OTHER FIBROUS COMPONENTS: Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc . . NON-FIBROUS COMPONENTS: Perlite Vermiculite Mica . . Quartz . Calcite Gypsum . Diatoms Other Binders grains of Carbonate weak - moderate EFFERVESCENCE: COMMENTS:

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #: M 2972 - 7	Date: 6/17/89
Project Name: Law Assoc late	Analyst:
Sample Identification: Prisa 00609 375A -726	Reviewer:
÷-	
Gross Visual Description: Beige, f. brows, fine grainer	1 matrix with
gold flakes and books	
<u> </u>	
Optical Data for Asbestos Identification of Elongation	ion
Extinction O O O O O O O O O O O O O O O O O O O	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	· · · · · · · · · · · · · · · · · · ·
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc	_ _ _ _
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite Mica Quartz Calcite Gypsum Diatoms	
Other	
Binders 53 Bypsom common - scattered grains of carbonale press	
EFFERVESCENCE: weak - moderate	
COMMENTS: NSO	
•'.	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: M Z97Z-8	Date: 6/17/89
Project Name: Law Assoc: /ATC.	Analyst: Am Reviewer:
Sample Identification: Prisa cocog 375A - 72D	Kentemer:
••	
Gross Visual Description: Beige, Chross, finegrained	matrix with
gold flakes and books	
9	
Optical Data for Asbestos Identificat Morphology	ion
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Mineral/Rock wool	
Perlite Vermiculite Mica Quartz Calcite Gypsum Diatoms Other	
Binders	e present
EFFERVESCENCE: weak to moderate	•
COMMENTS:	
· · · · · · · · · · · · · · · · · · ·	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #:	Date: 6/17/89
Project Name: Law Assoc /ATL	Analyst: Ahm Reviewer:
Sample Identification: firsa 00609 375A 73A	KGAIGMGE:
**	
Gross Visual Description: Beige, fibrous, finegrained	mula 1 de
•	THOUSE WITH
gold Clakes and books	*
Optical Data for Asbestos Identifica	
Morphology	. — :
Pleochroism	
Sign of Elongation	
Extinction	
Birefringence $\frac{1}{0}\omega$	
Melt	·
Fiber Name	
t	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Crocidolite	······································
Tremolite/Actinolite	
Anthophyllite	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	•
Fibrous glass	
Cellulose	
Synthetic	
Talc	•
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	
Mica	
Quartz	
Calcite	
Gypsum	· ·
Diatoms	
Other	·
Binders	
Gypsum commund - Scattered grains of Carbon	uhe present.
EFFERVESCENCE; weak - moderate	
COMMENTS:	
. •	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #:	Date: 6/17/89
Project Name: Law Assoc./ATL.	Analyst: Ohn
Sample Identification: Pusa pogos 375A 738	Reviewer:
••	
gold flakes and books	
Optical Data for Asbestos Identific Morphology Pleochroism. Refractive Index Sign of Elongation Extinction Birefringence. Melt Fiber Name Optical Data for Asbestos Identific Nation Note of the series of the s	* * *
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc	
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite	
Binders 53 Gypsum Common) - Scattered grains of Carbonde	· Oresen t
EFFERVESCENCE: wask- moderate	
COMMENTS:	· · · · · · · · · · · · · · · · · · ·
•	

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MATERIALS ANALYTICAL SERVICES, INC.

•	
Project # - Spl #:	Date: 6/17/89
Project Name: Law Assoc. ATL.	Analyst: Am Reviewer:
Sample Identification: Pt. 00609 375/	73 & Reviewer.
••	
Gross Visual Description: Beige, Chross, Chegra	ined material wanter and
	JAINE GOOD
Alakes and Dooks	
Optical Data for Asbestos Ident	ification
	•• • •
Pleochroism	* * * * .
Refractive Index	·
Sign of Elongation	·
Birefringence	• • • • • • • • • • • • • • • • • • • •
Melt	·
Fiber Name	<u></u>
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Crocidolite	
Tremolite/Actinolite	· ·
Anthophyllite	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	
Talc	· · · · · · · · · · · · · · · · · · ·
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	
Mica	
Quartz	
Calcite	<u> </u>
Gypsum	<u></u>
Diatoms	
Outer .	
Binders	
Gypsom Common - Scattered grains of Call	sorute Accent.
EFFERVESCENCE: Weak - moderate	• •
COMMENTS:	
MISO	
*	
₽ .	

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Project # - Spl #: M2972-/2	Date: 6/17/89
Project Name: Law Assoc. /ATL	Analyst: Am Reviewer:
Sample Identification: Pr.5a 00604 375A	730 Reviewer:
Gross Visual Description: Beige , fibross , fineg	rained matrix with
gold Plakes and books	
Optical Data for Asbestos Ident	
	•
Pleochroism	• • • • • • • • • • • • • • • • • • • •
Sign of Elongation	
Extinction	•
Birefringence	••
Melt	·
Fiber Name	•
ASBESTOS MINERALS: Est. Vol. %	, , , , , , , , , , , , , , , , , , , ,
Chrysotile	
Amosite	
Crocidolite	
Tremolite/Actinolite	
Anthophyllite	
OTHER FIBROUS COMPONENTS:	•
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	· ·
Talc	
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	
Mica	
Quartz	
Calcite	
Gypsum	
Diatoms	
	· · · · · · · · · · · · · · · · · · ·
Binders	(C) (P) (
6-1050 m Common - Scattered grains o	of Carbonate Present
EFFERVESCENCE; weak _ moderate	•
COMMENTS:	
NSO	
<u> </u>	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: M 2972-13 Date: 6/17/89
Project Name: Law Assoc /ATC. Analyst: Jhm Reviewer:
Sample Identification: Prisa 60609 375A 67A
Gross Visual Description: Beige, Cobross, finegrained matrix with
gold flakes and books".
Optical Data for Asbestos Identification
Morphology
Refractive Index
Sign of Elongation
Extinction
Birefringence
Fiber Name
ASBESTOS MINERALS: Est. Vol. %
Chrysotile
Amosite
Crocidolite
Tremolite/Actinolite
Androphytice
OTHER FIBROUS COMPONENTS:
Mineral/Rock wool
Fibrous glass
Cellulose
Synthetic
Talc
NON-FIBROUS COMPONENTS:
Vermiculite
Mica
Quartz
Calcite
Gypsum
Diatoms
Binders
Supsom Common - Scattered grains of Carbonute Accept
EFFERVESCENCE: weak - moderate
COMMENSE.
COMMENTS: NSO
•
<u></u>

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #:	Date: 6/17/89
Project Name: Law Assat. / NTL.	Analyst: Ohm Reviewer:
Sample Identification: Prisa Dosog 375A	67B Reviewer: 0
• • • • • • • • • • • • • • • • • • •	
Gross Visual Description: Beige, fibrous, finegras	ned matr. kw. tn gold
tlakes and Dooks	· · · · · · · · · · · · · · · · · · ·
Optical Data for Asbestos Ident	ification
Morphology	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc	
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite 35 Mica Quartz Calcite Gypsum Diatoms Other	
Binders Great Common - Scottered grains a	+ carponale Progent
EFFERVESCENCE: Weak-nderte	. :
COMMENTS:	
•	· · · · · · · · · · · · · · · · · · ·

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #:	Date: 6/17/89
Project Name: Law Assoc - ATL.	Analyst: /m Reviewer:
Sample Identification: 11.50 6060a 375A 67C	Kentemet:
Gross Visual Description: Beige, fibrous, finegrained m	atrix with gold
Plukes and books	·
Optical Data for Asbestos Identificat	ion
Morphology	
Refractive Index	
Sign of Elongation	<u></u>
Extinction	
Melt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	·
Amosite	
Crocidolite	
Anthophyllite	
· • • • • • • • • • • • • • • • • • • •	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Talc	•
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	
Mica	
Quartz	
Gypsum	
Diatoms	
Other	-
Binders	
- Gypsum Common - Scattered grains of Calporate	Present.
EFFERVESCENCE; weak - moderate	·. ·
COMMENTS:	
NSO.	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #: M Z97Z-16	Date: 6/17/89
Project Name: Law Assoc 747L.	Analyst: Om Reviewer:
Sample Identification: Prisa 60609 375 A	670 Reviewer:
···	
Gross Visual Description: Beige, Chross, finego	rained metrix with
gold flakes and books	
Optical Data for Asbestos Ident	ification
Morphology	· · ·
Pleochroism	· • • • _
Refractive Index	·
Sign of Elongation	•
Birefringence	·
Melt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Crocidolite	· ·
Anthophyllite	
Anthophyritte	·
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	:
Taic	•
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite35	· · · · · · · · · · · · · · · · · · ·
Mica	· · · · · · · · · · · · · · · · · · ·
Quartz	
Calcite	
Gypsum	
Diatoms	·
Other	
Binders 53	
Gypsum Common - Scattered grains of	Carponate Present
EFFERVESCENCE: weak - noderate	
COMMENTS:	
N=0	
-7-A	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #:	Date: 6/17/89
Project Name: Law Assoc. 7ATL.	Analyst: Analyst:
Sample Identification: Prisa 80609 375A 68A	Keviewer: _/_
···	
Gross Visual Description: Beige, files , finegrained	matrix w.th
gold flakes and bodes	
Optical Data for Asbestos Identificat	ion
Morphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Melt Tiber Name Mo	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	· · ·
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc	· · ·
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite Wica Quartz Calcite Gypsum Diatoms Other	
Binders Great Common - Sea Hand crains of Cacharage	Piesco +
EFFERVESCENCE; Weak - moderate	
COMMENTS:	

Case 01-01139-AMC Doc 10690-1 Filed 10/24/05 Page 70 of 90 MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: M 2972 - 18	Date: 6/17/89
Project Name: Law Assoc /ATL.	Analyst: Ohm
Sample Identification: Prisa 00604 375A	688 Reviewer:
··	
Gross Visual Description: Beige, Chross, Frago	ained matrix with
gold flakes and books	· · · · · · · · · · · · · · · · · · ·
Optical Data for Asbestos Iden	
Morphology	
Pleochroism	*
Sign of Elongation	• • • • • • • • • • • • • • • • • • • •
Extinction	
Birefringence	•
Melt	*
Finel Name	**************************************
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	····
Crocidolite	·
Tremotice/Accinotice	•
Anthophyllite	·
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	<u> </u>
Tale	· · · · · · · · · · · · · · · · · · ·
NON-FIBROUS COMPONENTS:	•
man 24.	
Perlite	
Mica	
Quartz	
Calcite	
Gypsum	
Diatoms	
<u> </u>	
Binders	
Gypsom Common - Scattered grains of c	as benete picsost
EFFERVESCENCE; weak - moderate	•
COMMENTS:	
NSO	
_ 	

Case 01-01139-AMC Doc 10690-1 Filed 10/24/05 Page 71 of 90 MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #:	Date: 6./17/89
Project Name: Law Assoc? /ATL.	Analyst: Jh
Sample Identification: Pr.sa 00609 375A 68C	Reviewer:
Gross Visual Description: Beige, Lorous, finegrained m	atrix with gold
flakes and books	
Ontign! Data for Johnston Identificat	ion
Optical Data for Asbestos Identificat Morphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Melt Fiber Name Optical Data for Asbestos Identificat Lady L	
ASBESTOS MINERALS: Est. Vol. % Chrysotile	
OTHER FIBROUS COMPONENTS: Mineral/Rock wool	
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite 35 Mica Quartz Calcite Gypsum Diatoms Other	
Binders	Frescot.
EFFERVESCENCE: Megk - Moderate	
COMMENTS: (1) 5 8	
<u>•••</u>	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #:	Date: 6/17/89
Project Name: Law Assoc A.C.	Analyst: Jam Reviewer:
Sample Identification: Prisa 00609 3751-680	Reviewer://
Gross Visual Description: Beise, Thous, fine grained	matice with gold
. Flakes and poxes	<u> </u>
Optical Data for Asbestos Identifica	ation
Morphology	
Refractive Index	• • •
Sign of Elongation	
Birefringence	• • • • • • • • • • • • • • • • • • • •
Melt	· · ·
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Tremolite/Actinolite	
Anthophyllite	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	**************************************
Fibrous glass	
Synthetic	
Talc	
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	
Quartz	
Calcite	
Gypsum	
Other	
Binders	
67PSUM Common - Scattered grains of Cachante present	
EFFERVESCENCE: Wall- Moderale	. ·
COMMENTS:	
# N > 0	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #:	Date: 6/17/89
Project Name: Law Assoc /ATL.	Analyst: Am
Sample Identification: Page 375A - 69A	Reviewer:
Gross Visual Description: Beige, filegra, gold flakes and books	hed mater with
gold flakes and books	· · · · · · · · · · · · · · · · · · ·
Optical Data for Asbestos Identific	
Morphology	
Refractive Index	
Sign of Elongation	· · ·
Birefringence	
Melt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Crocidolite	
Tremolite/Actinolite	· · · · · · · · · · · · · · · · · · ·
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool	
Fibrous glass	· · · · · · · · · · · · · · · · · · ·
Synthetic	
Talc	•
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite35	
Mica	
Calcite	
Gypsum	
Diatoms	
	
Binders	ionate present
EFFERVESCENCE; weak - moderate	,
COMMENTS:	·
NSO	
· · · · · · · · · · · · · · · · · · ·	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #: M Z97Z -2Z	Date: 6/1/89
Project Name: Law Assoc /ATL.	Analyst: Am Reviewer:
Sample Identification: Prisa 375A - 69B	Reviewer:
Gross Visual Description: Beige, Chross, finegrained	matrix with
gold Clakes and books	· · · · · · · · · · · · · · · · · · ·
Optical Data for Asbestos Identifica	tion
Morphology Pleochroism. Refractive Index Sign of Elongation Extinction Birefringence. Melt Fiber Name INALY AC AC AC AC AC AC AC AC AC A	···
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Cellulose	
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite Mica Quartz Calcite Gypsum Diatoms Other	
Binders 53 Gypsum Common - Scattered grains of Carpor	rate present
EFFERVESCENCE; Weak - moderate	1
COMMENTS: NSO	
44.	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: M2972-23 Date: 6/11/	89
Project Name: (au) Assoc. (A7L. Analyst: On	m
Sample Identification: $\rho_{c.5a.} 375R - 69 C$ Reviewer:	
Gross Visual Description: Beige, fibious, finegra, ned matich with	
gold Clakes and books	
Optical Data for Asbestos Identification	
Morphology	
Pleochroism	- 1
Refractive Index	- 1
Sign of Elongation	ı
Birefringence	
Melt	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Crocidolite	٠
Tremolite/Actinolite	
Anthophyllite	
OTHER FIBROUS COMPONENTS:	
OTHER ALDROOD COMMUNICATION	
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	
Talc	
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite	
Mica	
Quartz	
Calcite	
Gypsum	
Diatoms	
Other	
Binders	
- Compour common - Scattered grains of Carbonate present.	
EFFERVESCENCE: Weak - Moderate	
COMMENTS:	
NSO	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: <u>M 2971 - 24</u>	Date: 6/17/80
Project Name: Law Assoc. /ATL	Analyst: Jhm Reviewer:
Sample Identification: Ps.5a 375A - 69D	
••	
Gross Visual Description: Beige, fibrous, finegrapher	1 matrix with
Optical Data for Asbestos Identific Morphology	ation
Pleochroism	
Tiber Name	•
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
OTHER FIBROUS COMPONENTS:	
Mineral/Rock wool Fibrous glass Cellulose Synthetic Talc	
NON-FIBROUS COMPONENTS:	•
Perlite Vermiculite Mica Quartz Calcite Gypsum Diatoms	
Other	
Binders	bunule prosent
EFFERVESCENCE: Weak - moderate	,
COMMENTS: N 50	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Sp1 #: $\frac{n^2 \sqrt{12 - 25}}{25}$	Date: 6/17/89
Project Name: Law Assoc. /ATL	Analyst: Jam Reviewer:
Sample Identification: Prisa 375A - 70A	
Gross Visual Description: Beige, files , finegrained	matrix with
Optical Data for Asbestos Identificat Morphology Pleochroism. Refractive Index Sign of Elongation Extinction Birefringence. Melt Fiber Name Optical Data for Asbestos Identificat Name Optical Data for Asbestos Identificat Optical Data for Optical Data fo	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
OTHER FIBROUS COMPONENTS: Mineral/Rock wool	
NON-FIBROUS COMPONENTS:	•
Perlite Vermiculite Mica Quartz Calcite Gypsum Diatoms Other	
Binders 53 Gypsom common - Scattered grains of Carbonate	Diesent.
EFFERVESCENCE: Weak - moderate	· ·
COMMENTS: N > 0	·
•••	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: M2971-26	Date: 6/17/89
Project Name: Law Assoc /ATL.	Analyst: Am Reviewer:
Sample Identification: Prisa 375A - 70B	Keviewei.
** · · · · · · · · · · · · · · · · · ·	
Gross Visual Description: Beige, fibrous, finegrained	Matrix with
gold flakes and books	<u> </u>
Optical Data for Asbestos Identificat	ion
Morphology	
Refractive Index	
Sign of Elongation	
Extinction	• •
Birefringence	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	
Crocidolite	· · ·
Anthophyllite	 .
Mittiophyritice	
OTHER FIBROUS COMPONENTS:	,
Mineral/Rock wool	
Fibrous glass	
Cellulose	
Synthetic	
Talc	· ·
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite35	
Mica	
Quartz	
Calcite	
Gypsum	
Other	
Binders	
Gypsom Common - Scattered grains of carb	nute Diesent
EFFERVESCENCE: weak - moderate	
COMMENTS:	
,	
_••	

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MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: M2971-27	Date: 6/17/89
Project Name: Law Assoc ATC.	Analyst: Jhm Reviewer:
Sample Identification: Prisa 3754 - 70 C	Kentemer:
Gross Visual Description: Beige, Cibrous, Sinegra	ened matrix with
gold flakes and Dooks	· · · · · · · · · · · · · · · · · · ·
Optical Data for Asbestos Identific	ation
Morphology	
Fiber Name	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
NON-FIBROUS COMPONENTS:	
Perlite Vermiculite Mica Quartz Calcite Gypsum Diatoms Other	
Binders	Suchante Ocean to
EFFERVESCENCE: Weak - moderate	al voirie prescrit
COMMENTS:	
···	

Case 01-01139-AMC Doc 10690-1 Filed 10/24/05 Page 80 of 90 MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: <u>M2971-28</u>	Date: 6/17/89
Project Name: Law Assoc. /ATL.	Analyst: Mm Reviewer:
Sample Identification: Piisa 375A - 700	Reviewer:
** "	
	1
Gross Visual Description: Beige fibrous, finegraine	Muy, X Wiyj
gold flakes and books	· <u>-</u>
Optical Data for Asbestos Identificati	ion
Morphology	_• • •
Pleochroism	• • •
Sign of Elongation	· · ·
Extinction	
Birefringence	• • • <u></u>
Melt	
ASBESTOS MINERALS: Est. Vol. %	
Chrysotile	
Amosite	-
Crocidolite	- -
Tremolite/Actinolite	
Michophytite	_
OTHER FIBROUS COMPONENTS:	•
Mineral/Rock wool	
Fibrous glass	-
Cellulose	_
Synthetic	
	<u></u>
NON-FIBROUS COMPONENTS:	
Perlite	
Vermiculite55	
Mica	-
Quartz	
Gypsum	-
Diatoms	- -
Other	
Binders	
Cipsum Common - Scattered grains of Carp	prute Present
EFFERVESCENCE: weak-moderate	
COMMENTS:	
N90	
••	

MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: <u>\4334-5</u> /20.61	Date: 6/27/90
Project Name: PRUPENTIAL: SOUTH DALE OFFICE CONREX	Analyst: 6. B. Ente
Sample Identification: 5-05/ FIRE PROSEING; BSht ST	ORAGE BLOGGEOO
	
Gross Visual Description: LICHT DEIGE GOLD FLAMES AND	BOOKS AS WECL
AS FIBERS BOUND BY AN ABUNDANT FINE DATRIX.	
Optical Data for Asbestos Identification Morphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Melt Fiber Name Optical Data for Asbestos Identification LANGE LANGE	ion
ASBESTOS MINERALS: Est. Vol. %	•
Chrysotile	
Other	- -
NON-FIBROUS COMPONENTS:	
Perlite	·
Binders	_
ABUNDANT GYPSUM WITH FINE GRANULAR CARBONAT	E AND UVARTE
SEEN RANDONLY THROUGHOUT.	
EFFERVESCENCE: WEAK	
COMMENTS: NO STAKEH OBSERVED	

MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: \(\frac{4334-6}{120.61} \) Date: \(\frac{6/27/90}{120.61} \)
Project Name: DRUNENTIAL: SOUTH DALE OFFICE COMPLEX Analyst: W.B. Eyel
Sample Identification: 6 - OSI FIREPROOFING SUITE 165, BLOG 6 \$00
Gross Visual Description: LIGHT BEIGE, GOLD GLAKES AND BOOKS AS WELL
AS FIBERS BOUND BY AND ADUNDANT FINE DATRIX.
Optical Data for Asbestos Identification Norphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Nelt Fiber Name Optical Data for Asbestos Identification NAME INDEX SUBJECTIVE CHATSOTICE
ASBESTOS MINERALS: Est. Vol. %
Chrysotile
Synthetic
NON-FIBROUS COMPONENTS:
Perlite
Binders
ABUNDANT GYPSUM WITH FINE GRANULAR CARBONATE AND
QUARTZ ODSERVED THROUGHOUT.
EFFERVESCENCE: WEAK
COMMENTS:NO_STARCH OBSERVER.

MATERIALS ANALYTICAL SERVICES, INC.

Project # - Spl #: 44334-7 Date: 6/27/90
Project Name: PRUDENTIAL: SOUTHPALE OFFICE CONPLEX Analyst: W.B. Eyl
sample Identification: 7.05/ FIREPROFINE, SUITE 555, BLDG 6800
Gross Visual Description: LICHT BEIGE. GOLD FLAKES AND BOOKS AS
WELL AS FIBERS BOUND BY AN ABUNDANT FINE MATRIX.
Optical Data for Asbestos Identification Norphology Pleochroism Refractive Index Sign of Elongation Extinction Birefringence Nelt Fiber Name Optical Data for Asbestos Identification LACUTE LACUTE PROPRIES IDENTIFICATION CHRISTICE
ASBESTOS MINERALS: Est. Vol. &
Chrysotile
Other
NON-FIBROUS COMPONENTS: Perlite
Binders
ABUNDANT GYPSUM WITH CARBONATE AND SMALL AMOUNTS OF SILTY
BUARTE SE ATTERED THROUGHOUT.
EFFERVESCENCE: UEAK
COMMENTS: NO STARCH OASERVEN.

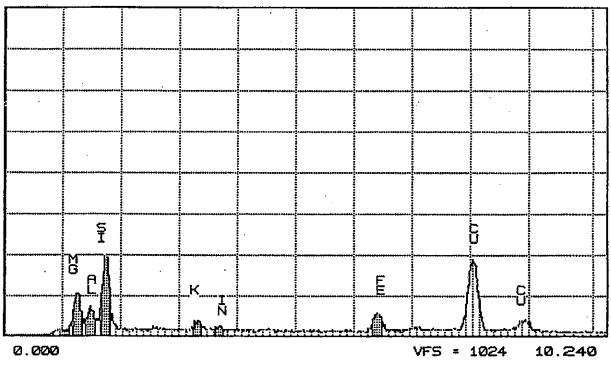
MATERIALS ANALYTICAL SERVICES, INC. 3597 Parkway Lane Suite 250 Norcross, GA 30092

TEM Analysis Type: Bulle
Project Number/ Sample Number: M-297/-/
Project Name: <u>South Dale</u>
Sample Identification: 00609 - 37574 714
Analyst/6/25/89 Longo
Asbestos Minerals:
Chysotile (diffElls)
<u> </u>
Non-Asbestos Components:
Vermicalite (diff/EDS)
Gypsum (EUS)
Calcife (EUS) smell Amount
Comments:
. •

MATERIALS ANALYTICAL SERVICES

SUN 25-JUN-89 12:36

Cursor: 0.000keV = 0 ROI (SIKa) 1.660: 1.810=3019



30

M-2971-1: VERMICULITE

Cursor: 0.000keV = 0 ROI (SIKa) 1.660: 1.810=306

20 M-2971-1: GYPSUM

0.000

MATERIALS ANALYTICAL SERVICES

VFS = 1024

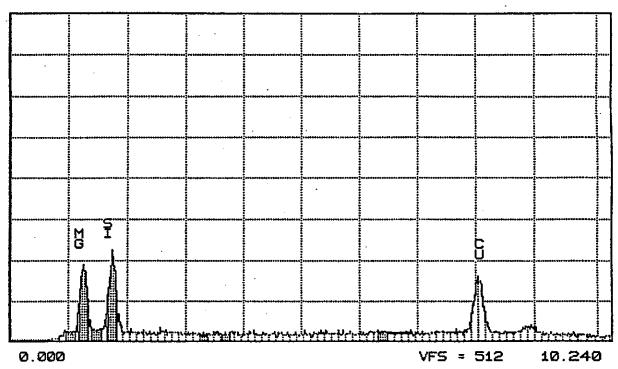
10.240

SUN 25-JUN-89 12:38

MATERIALS ANALYTICAL SERVICES

SUN 25-JUN-89 12:40

Cursor: 0.000keV = 0 ROI (SIKa) 1.660: 1.810=1615



35

M-2971-1: CHRY50TILE

	Ľ	,		_				
	3597 PARKUAY LANE HORCROSS GA. 30092	. 30092			HC.LU BUL	HCIU DISSULULIUN BULK ANALYSIS	YSIS	
USING	2% SOLUTION	TON HCI			DATE	DATE 6/25/89		4.0.8.
·	P-D + SAMPLE	P-D - SAMPLE	SAMPLE WEIGHT	FILTER WEIGHT	FINAL WT + FILTER	FINAL WT - FILTER	PERCENT FINAL WT	AMOUNT IN SOLU.
	8.8778,	7.5723,	1.30559	7.5365	7.991/2	0.4354,	33.42	66.62
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ADDITIONAL BULK ANALYSIS

STARCH VERIFICATION

Sample # 14297/-/		Analyst W. / - Zuch
Date <u>6/23/90</u>		•
1) Sample Analyzed before/after acid disc	solutions	
Starch observed		(nd)
lodine test (ceiling tile only)	positive negative	

PIS 00061026

EXHIBIT C